SIEMENS

PATENT

Attorney Docket No. 2003P08367WOUS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventor:	Stefan Haaks et al.	Group Art Unit:	2128
Serial No.:	10/559,866	Examiner:	S. S. Rao
Filed:	December 7, 2005	Confirmation No.:	7442
Title	**METHOD FOR INCREASING THE CAPACITY OF AN INSTALLATION USED TO CARRY OUT AN INDUSTRIAL PROCESS**		

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Sir:

APPELLANT'S BRIEF UNDER 37 CFR 41.37

This brief is in furtherance of the Notice of Appeal filed in this application on April 15, 2009.

1. REAL PARTY IN INTEREST - 37 CFR 41.37(c)(1)(i)

The real party in interest in this Appeal is the assignee Siemens Aktiengesellschaft.

2. RELATED APPEALS AND INTERFERENCES - 37 CFR 41.37(c)(1)(ii)

There is no other appeal, interference or judicial proceeding that is related to or that will directly affect, or that will be directly affected by, or that will have a bearing on the Board's decision in this Appeal.

3. STATUS OF CLAIMS - 37 CFR 41.37(c)(1)(iii)

Claims pending: 10-18

Claims cancelled: 1-9

Claims withdrawn but not cancelled: None

Claims allowed: None

Claims objected to: None

Claims rejected: 10-18

The claims on appeal are 10-18.

4. STATUS OF AMENDMENTS - 37 CFR 41.37(c)(1)(iv)

A response without claim amendment was filed under 37 C.F.R. §1.116 on February 18, 2009 and was entered and considered by the Examiner. The rejections were sustained.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER- 37 CFR 41.37(c)(1)(v)

This invention relates generally to a method for increasing the capacity of an installation used to carry out an industrial process.

Sole independent claim 10 is directed to a method that increases a capacity of an installation used to carry out an industrial process as described at page 2 paragraph [006]. The method includes the steps of determining a plurality of process variables relevant for the capacity of the installation as described at page 2 paragraph [008] and page 5 paragraph [0029]; recording the process variables during changing operating conditions of the installation as described at page 2 paragraph [008] and page 5 paragraph [0029]; determining a minimum control reserve of a plurality of control loops of the installation on the basis of the recorded process variables as described at page 5 paragraph [0029]; determining actions that increase the capacity of the installation, where the determined actions are based on the determined minimum control reserves

as described at page 2 paragraphs [009] and 5 paragraphs [0029] to [0035]; and implementing the actions resulting in an increase in installation capacity as described at page 2 paragraph [0010] to page 3 paragraph [0011].

6. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL - 37 CFR 41.37(c)(1)(vi)

The grounds for rejection for claims 10-16 is that each claim is anticipated under 35 USC § 102(b) by Eryurek et al. (US 2003/0045962, hereinafter Eryurek '962).

The grounds for rejection for claims 17 and 18 is that claim 17 is unpatentable under 35 USC § 103(a) by Eryurek '962 and claim 18 is unpatentable under 35 USC § 103(a) by Eryurek '962 in view of Lewis et al. (USPN 5, 281,343).

7. ARGUMENT 37 CFR 41.37(c)(1)(vii)

Arguments applicable to all claims:

Claims 10-16 stand rejected under 35 USC § 102(b) by Eryurek '962, claim 17 stands rejected under 35 USC § 103(a) by Eryurek '962 and claim 18 stands rejected under 35 USC § 103(a) by Eryurek '962 in view of Lewis et al.. The Appellants traverse the all of the claim rejections because Eryurek '962 fails to teach each and every element as set forth in independent claim 10. Claims 11-18 depend from claim 10, therefore these claims 10-18 raise and fall together.

MPEP 2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claims.

The prior art reference relied upon by the Examiner in the §102(b) rejection does not contain every element and limitation recited in independent claim 10.

Claim 10 recites in part:

> ...**determining a minimum control reserve** of a plurality of control loops of the installation on the basis of the recorded process variables;
> **determining actions that increase the capacity of the installation** ... based on the determined minimum control reserves; and
> implementing the actions resulting in an **increase in installation capacity**.

In contrast, Eryurek '962 teaches a control system using a process model for improved close loop control of a paper manufacturing facility and does not teach **determining a minimum control reserve, determining actions that increase the capacity of the installation** based on the determined minimum control reserves; and implementing the actions resulting in an **increase in installation capacity** as recited in claim 10.

Specifically, the process model of Eryurek '962 is merely an analytical model of the paper manufacturing process that improves a reaction time for closed loop control of the manufacturing process. The "process model 70 … receives a process variable … input 72 and provides a modeled product output 74 to controller 60." [para. 0013]. The model of Eryurek '962 is solely directed toward controlling the **quality** of the produced product by facilitating faster control of the process output by **predicting the process output quality** and implementing corrective actions before an unacceptable product is actually produced.

In contrast, Applicants teach that **a minimum control reserve** is the "increase in **capacity** which can be obtained without any further measures" [spec. para. 009]. (emphasis added). Furthermore, **a minimum control reserve** is directed toward a **capacity** (quantity) of the installation, not a **quality** of the installation.

In the Office Communication dated March 9, 2009, the Examiner further contends that Eryurek '962 teaches an increase in capacity via inherently reduced waste as a result of the reduced reaction time and improved quality. Appellants respectfully point out that the Examiners position is misguided because the proper test for the §102(b) rejection is not that Eryurek '962 teaches an inherent increase in capacity, but rather that Eryurek '962 teaches each and every limitation of claim 10. Furthermore, any increase in capacity resulting from the system taught by Eryurek '962, inherent or otherwise, is not the result of "**determining a minimum control reserve … on the basis of the recorded process variables; determining actions that increase the capacity of the installation … based on the determined minimum control reserves**; and **implementing the actions** resulting in an **increase in installation capacity**" as required by claim 10 due to the fact that Eryurek '962 is silent with regard to the above limitations of claim 10.

In light of the above, Appellants submit that Eryurek '962 fails to teach each and every element of claim 10, therefore the §102(b) rejection must fail.

8. CLAIMS APPENDIX - 37 CFR 41.37(c) (1) (viii).

A copy of the claims involved in this appeal is attached as a claims appendix under 37 CFR 41.37(c) (1) (viii).

9. EVIDENCE APPENDIX - 37 CFR 41.37(c) (1) (ix)

None is required under 37 CFR 41.37(c) (1) (ix).

10. RELATED PROCEEDINGS APPENDIX - 37 CFR 41.37(c) (1) (x)

None is required under 37 CFR 41.37(c) (1) (x).

Respectfully submitted,

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APPENDIX OF CLAIMS ON APPEAL

10. A method that increases a capacity of an installation used to carry out an industrial process, comprising:

determining a plurality of process variables relevant for the capacity of the installation;

recording the process variables during changing operating conditions of the installation;

determining a minimum control reserve of a plurality of control loops of the installation on the basis of the recorded process variables;

determining actions that increase the capacity of the installation, where the determined actions are based on the determined minimum control reserves; and

implementing the actions resulting in an increase in installation capacity.

11. The method according to claim 10, further comprising the steps of defining a desired increase in the capacity of the installation, determining the control reserves in the control loops of the installation necessary for the desired capacity increase, and determining the control loops with a control reserve that is too small for the desired capacity increase.

12. The method according to claim 11, further comprising the steps of investigation of the control loops with a control reserve that is too small and formulation of potential actions for producing the control reserves required in each case by relieving the load on the relevant control loops and/or by replacing components in the relevant control loops by higher-capacity components

13. The method according to claim 12, further comprising the step of performing a technical and/or commercial evaluation of the potential actions.

14. The method according to claim 10, wherein a core process being defined for determining the relevant process variables and interfaces of the core process with ancillary processes surrounding them being investigated for an effect relationship with a process variable representing the capacity of the installation.

15. The method according to claim 11, wherein the installation is an installation for execution of a continuous process such as the manufacture of paper, textiles, plastic or metal foils.

16. The method according to claim 15, wherein the capacity of the installation is determined by the speed of production on the production line.

17. The method according to claim 11, wherein the method is executed by a service provider company.

18. The method according to claim 15, wherein the process variables are filtered approximately every 2 seconds and sampled approximately every 5 seconds when they are recorded.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.